XTNDAccess™ Blue SDK Version 1.3

Extended Systems®
Beyond Connected®

An Embedded Bluetooth™ Protocol Stack

Fifth Generation Embedded Mobile SDK Expertise

The XTNDAccess Blue Software Development Kit (SDK) provides an efficient way to add reliable Bluetooth radio communications to any embedded device. The protocol stack is designed for use in embedded devices such as cellular phones, PDAs, portable office equipment, automotive devices, medical equipment, industrial automation products and more. Extended Systems' IrDA infrared and Bluetooth protocol expertise, extensive involvement in the IrDA, Bluetooth and SyncML standards organizations, and large base of OEMs assures you of the highest quality code written to specification, with industry proven reliability, functionality, and portability.

Bluetooth Qualified and Market Tested

An authorized Bluetooth Qualification Body has placed XTNDAccess Blue SDK on the Bluetooth Qualified Product List. This includes qualifications for more user profiles than any other provider. By providing a certified solution, Extended Systems helps device manufacturers reduce development costs, shorten time-to-market and apply strict compliance to Bluetooth's interoperability standards.

Extended Systems has over 100 Bluetooth design wins across all product categories including market leaders such as Palm, HP, Motorola, 3Com, NEC, Mitsubishi, Fujitsu and Visteon. Extended Systems is an Associate member of the Bluetooth Special Interest Group (SIG) and sits on the Bluetooth Architectural Review Board (BARB) where it helps shape the next generation of Bluetooth technology.

Portable, Easy-to-Use Code

The XTNDAccess Blue SDK is delivered as a well-documented, portable source code solution that engineers will find is an easy-to-use product providing complete control over their Bluetooth software implementation.

Popular RTOS and Radio Support

The XTNDAccess Blue SDK is packed into approximately 60K of code for a complete Bluetooth protocol stack. The XTNDAccess Blue SDK provides a complete implementation of v1.1 Bluetooth Specification for use in embedded devices. This includes modules for OBEX, RFCOMM, Service Discovery, Telephony Control, L2CAP, Voice, and the Management Entity. To ease portability to different operating systems the required OS calls are clearly identified as APIs and a sample Mini-OS is provided in case an implementation doesn't use an operating system. Port modules for WindRiver's VxWorks, Linux, and Accelerated Technologies' Nucleus operating systems are available.

To ease portability and implementation with various hardware providers there is a Hardware Abstraction Layer, and sample Host Control Interface Transport Drivers are provided for various Bluetooth hardware providers such as Ericsson, Silicon Wave, Cambridge Silicon Radio, Infineon and Texas Instruments and standard Bluetooth transports such as UART and USB. Other Bluetooth radio hardware is also under examination.

Support for Multi-transport OBEX

XTNDAccess Blue SDK with OBEX Protocol Parser and OBEX Transport Media Multiplexor delivers OBEX support as per Bluetooth specifications. The Transport Media Multiplexor enables the use of multiple transports such as Bluetooth, IrDA, Serial and others. The multiplexor isolates the OBEX application from the specifics of the transport so that an application can use one or more transports within the same device.

Complete Bluetooth Protocol Stack

Protocols, Sample Apps., and Documentation:

- Multi-transport OBEX
- RFCOMM
- TCS Binary
- BNEP
- L2CAP, SCO, SDP, Management Entity
- Sample API documentation
- Sample application code
- Radio Hardware Porting Implementation Guides

Profiles Supported:

- Generic Access
- Service Discovery Application
- Serial Port
- Generic Object Exchange
- Object Push
- File Transfer
- Headset
- Cordless Telephony
- Intercom
- Dial-Up Networking
- FAX
- LAN Access
- PAN (Personal Area Networking)
- Hands-Free
- and including hardcopy cable replacement

Qualified Compliant with Bluetooth Specifications Version 1.1
Approximate code size—less than 60K
Portable source code SDK

Bluetooth™

Data Sheet

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Bluetooth Profile Identifiers

(OP) Object Push	**Object Push:** Enables sending a generic object (i.e. File, vcard, image…)
(Sync) Synchronization	**Synchronization:** Synchronizes data between two devices. This profile specifies IrMC level 4 synchronization at the current time.
(FT) File Transfer	**File Transfer:** More than object push, this profile allows browsing and file retrieval from another device.
(HS) Headset	**Headset:** Enables a headset to wirelessly connect to a paired cell phone.
(CT) Cordless Telephony	**Cordless Telephony:** Replaces a cordless phone. A BT phone connects to a BT base station hooked to a regular wired network.
(Int) Intercom	**Intercom:** Simple BT devices can act as intercoms between rooms without need for regular wired network.
(DUN) Dial-Up Networking	**Dial-Up Networking:** A way to access the external network, which uses a BT phone as a modem connected to a PC or PDA with dial-up networking.
(FAX) Facsimile	**FAX:** Enables a PC to receive faxes from BT cell phone or BT base station acting as a modem.
(LAN) LAN Access	**LAN Access:** A PC or PDA can connect wirelessly to a BT access point connected to a local area network (LAN)
(PAN) Personal Area Networking	**Personal Area Networking:** Allows two or more Bluetooth-enabled devices to form ad-hoc networks or access remote networks through an access point.
(HF) Hands Free	**Hands-Free:** Allows a mobile phone to be used by a hands-free device installed in a car.
(HCRP) Hardcopy Cable Replace	**Hardcopy Cable Replacement:** Allows laptops and other computers with printer-specific drivers to print wirelessly.
(BPP) Basic Printing	**Basic Printing:** Allows Bluetooth-enabled devices to print common object types without a printer-specific driver.
(BIP) Basic Imaging	**Basic Imaging (Still Image):** Projector,/Camera download, Remote Control.

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Bluetooth™

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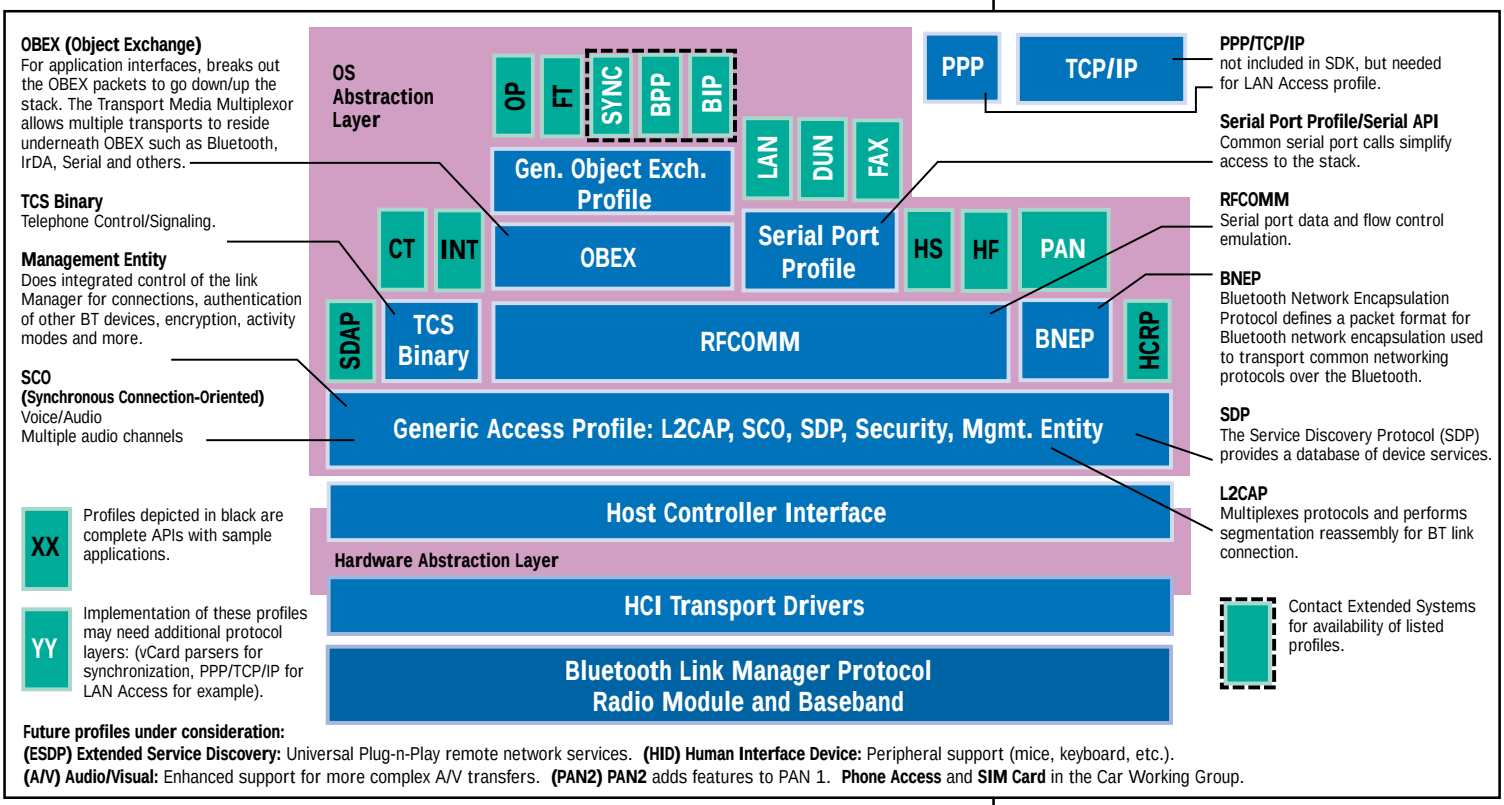
Extended Systems is a global leader in providing mobile infrastructure software that extends enterprise applications to mobile and wireless environments. The company's mobile information management products include data synchronization and management software, short-range wireless connectivity products (Bluetooth and IrDA-compliant), and client/server database management systems with remote access capabilities.



Future profiles under consideration:
(ESDP) Extended Service Discovery: Universal Plug-n-Play remote network services. **(HID) Human Interface Device:** Peripheral support (mice, keyboard, etc.).
(A/V) Audio/Visual: Enhanced support for more complex A/V transfers. **(PAN2) PAN2** adds features to PAN 1. **Phone Access** and **SIM Card** in the Car Working Group.